



Modernising Patient Pathways Programme:

Intermittent Claudication National Pathway

September 2024



Background



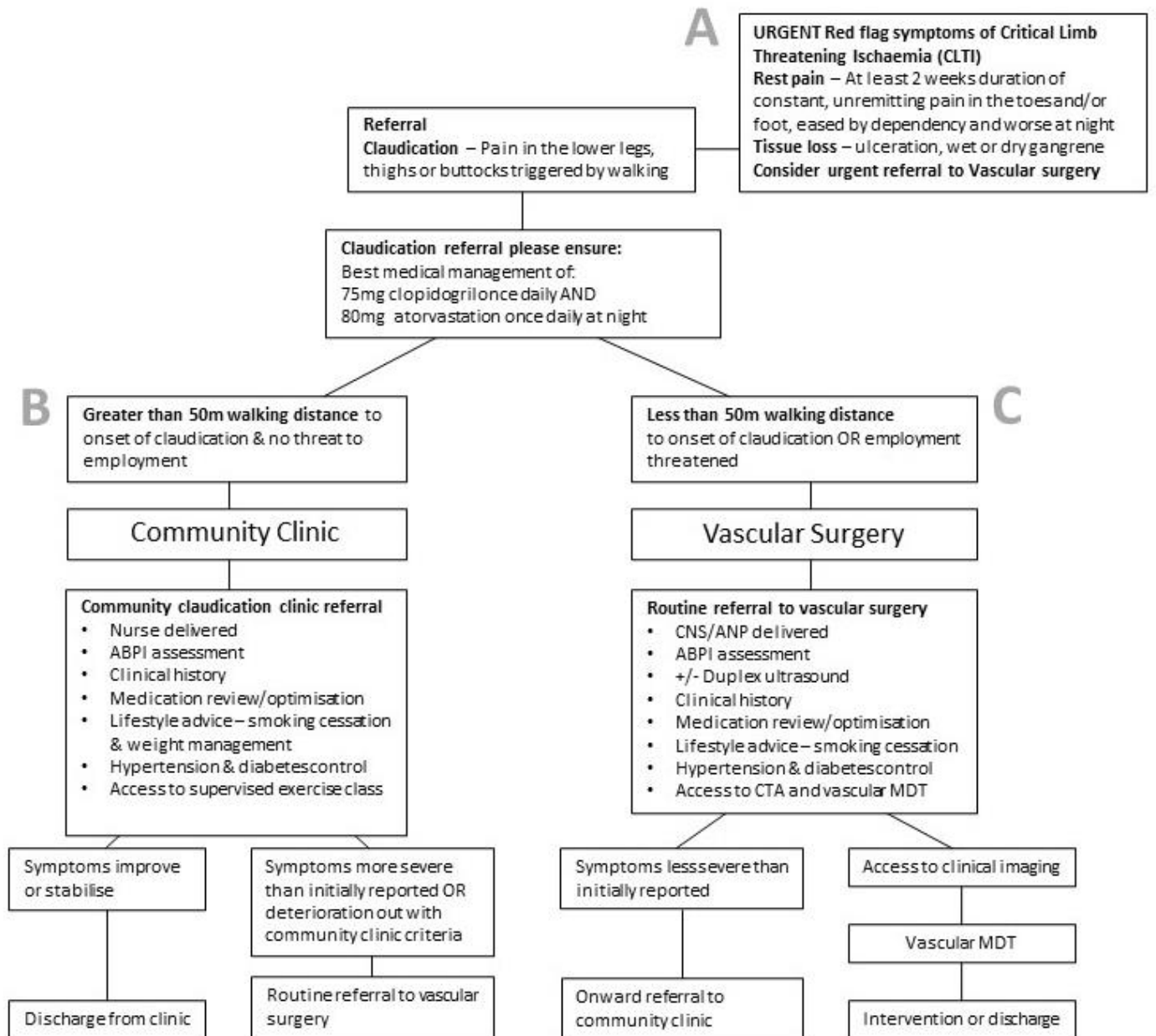
Intermittent claudication is characterised by pain in the muscles of the leg brought on by exercise and relieved by rest. It is usually caused by atherosclerosis which causes narrowing or occlusion of the arteries supplying these muscles. Most commonly the muscles of the calf are affected as the commonest site for atherosclerosis in the leg is in the superficial femoral artery. Patients walk for a certain distance and then complain of a severe cramping pain in the calf muscles. They rest for a few minutes, the muscle recovers and they can walk a similar distance again. The muscles of the thigh and buttock can also be affected if the atherosclerosis is more proximal, affecting the aorta or iliac arteries.

In general, intermittent claudication is a benign condition, with 75% of patients either remaining the same or improving, and most never deteriorate to a level where the viability of the leg is at risk. Only 5 – 10% of claudicants will find that their symptoms deteriorate such that they develop Chronic Limb Threatening Ischaemia (CLTI). This is characterized by constant, unremitting pain at rest (usually in the toes and forefoot, not the muscles of the leg) of at least 2 weeks duration, ulceration and/or gangrene and requires prompt assessment and intervention by a vascular specialist.

Acute limb ischaemia is where the patient suffers sudden onset, catastrophic ischaemia characterised by a pale, perishing cold paralysed, paraesthetic, pulseless limb, often caused by embolic disease. This is a vascular emergency and patients need immediate referral to a vascular specialist.

As intermittent claudication poses no limb threat in the significant majority of patients, the risk of intervention usually outweighs the benefit, and so most claudicants should be treated conservatively. In addition, if lifestyle changes are implemented, the claudication distance usually improves. Such measures include weight loss, regular exercise and smoking cessation. Whilst claudication usually has a benign course in terms of the affected limb, it is a marker that the patient has atherosclerotic disease, a systemic condition affecting all vascular beds. As such they are at increased risk of cardiovascular events such as myocardial infarction and stroke and should have cardiovascular risk factors such as hypertension and diabetes addressed and be started on an antiplatelet agent and a statin.

Pathway recommendations



Nurse Delivered Claudication Clinics

Lifestyle modification and medical optimisation can significantly improve the symptoms of intermittent claudication (IC). Nurse delivered clinics across the pathway should offer people with PAD and IC information, advice, support and treatment to manage their disease progression, cardiovascular risk factors and improve their quality of life at an early stage (NICE 2023). This includes access to programmes of supervised exercise, delivered weekly, and encouraging people to exercise to the point of maximal claudication pain (NICE 2020). Exercise programmes significantly improve walking performance in people IC, helping avoid disease progression and the need for surgical intervention (ESVS, 2024).

Nurse delivered claudication clinic, key components:

- Arterial assessment, including ABPI utilising handheld Doppler
- Medication review (lipid modification and antiplatelet therapy)
- Management of diabetes and hypertension
- Lifestyle modification (smoking cessation and exercise)
- Maintaining a healthy weight

Close links between community clinics and secondary care vascular services should be encouraged and maintained; local pathways should allow patient flow between these services to best manage varying levels of symptom. Nurses should feel supported and enabled by the wider healthcare team (General practitioners, vascular medical, nursing and AHP workforce) to deliver these services. Shared practice and cross profession teaching/learning is essential to develop and maintain the knowledge and skills required in delivery of these nurse led services.

Where community claudication clinics do not already exist, resources to implement these may be an issue. There should not be an expectation that this service is provided from existing resource within the community, rather it should be addressed through service redesign and workforce skill mix development involving vascular services and other stakeholders.

Intermittent Claudication Pathway

(A) Urgent Referral to Vascular Surgery: Red Flag Symptoms of Chronic Limb Threatening Ischaemia

Chronic Limb Threatening Ischaemia is the advanced stage of Peripheral Arterial Disease (PAD) where the blood supply to the foot is insufficient for the needs of the tissues. Without adequate treatment there is a significant risk of major limb loss.

Red flag symptoms include: Rest pain – Constant, unremitting pain in the toes and/or foot of at least 2 weeks duration, eased by dependency and worse at night. **Tissue loss** – ulceration, wet or dry gangrene. See Chronic Limb Threatening Ischaemia National Pathway.

(B) Community Claudication Clinic: Moderate or stable claudication

For example: Able to walk greater than 50 meters to onset of symptoms and no threat to employment

No features of Chronic Limb Threatening Ischaemia

- Staffed by appropriately trained, qualified nurses (not necessarily nurse specialist or advanced nurse practitioner)
- Situated in the community setting – clinic room, ideally with bariatric / split leg bed
- New patient assessment community clinic (allow for 45-minute slot):
 - Ankle Brachial Pressure Index (ABPI) with pressure cuff and hand-held Doppler
 - Verbal history and discussion of current symptoms
 - Review of current medications and identify opportunities for optimisation

- Lifestyle advice and risk factor modification, access to smoking cessation services
- Diabetic control – Hba1c assessment
- Hypertension assessment and optimisation
- Access to, or delivery of, supervised exercise programme
- Advice on weight management
- Emphasis on following protocol for assessment, care planning and onward referral where indicated.
- Close working with Vascular Surgery service for advice as needed. Protocols should include a route to escalation or onward referral to secondary care where indicated, and access back to the referring clinician where primary care support is required to facilitate optimisation such as best medical management. It is very unlikely that patients who continue to smoke will be offered any operative intervention for their claudication.

(C) Referral to Vascular Surgery Service: Severe claudication

For example: Walking distance reduced to less than 50 meters before symptom onset or threatened employment

No features of Chronic Limb Threatening Ischaemia

- Staffed by a clinical nurse specialist (CNS) or advanced nurse practitioner (ANP)
- Situated within secondary care – vascular surgery outpatient clinic department
- New patient assessment (allow for 30-minute slot):
 - Ankle Brachial Pressure Index (ABPI) with pressure cuff and hand-held Doppler
 - Verbal history and discussion of current symptoms
 - Review of current medications
 - Lifestyle advice and risk factor modification, access to smoking cessation services
 - Diabetic control – Hba1c assessment
 - Hypertension assessment and optimisation
 - Access to duplex ultrasound via vascular lab or general ultrasound department
 - Ability to request appropriate onward investigations such as CT angiogram
 - Direct pathway to appropriate vascular MDT where indicated
- Access to vascular consultant surgeon for escalation or condition management advice
Access back into community clinic where very stable or symptoms below secondary care referral criteria.

References and further resources



References

European Society for Vascular Surgery (ESVS)2024 Clinical Practice Guidelines on the Management of Asymptomatic Lower Limb Peripheral Arterial Disease and Intermittent Claudication. Eur J Vasc Endovasc Surg 2024; 67; 9-96

NICE Clinical guideline [CG147] Peripheral arterial disease: diagnosis and management

NICE Clinical guideline [CG181] Cardiovascular disease: risk assessment and reduction, including lipid modification

Chronic Limb Threatening Ischaemia National Pathway (<https://nhscfsd.co.uk/media/pufomdjx/nhs-scotland-chronic-limb-threatening-ischemia-national-pathway.pdf>)

[All you need to know about Vascular Surgery – Journal of Vascular Societies Great Britain and Ireland JVSGBI](https://jvsqbi.com/all-you-need-to-know-about-vascular-surgery/) (<https://jvsqbi.com/all-you-need-to-know-about-vascular-surgery/>)

Appendix 1

The majority of patients with IC will have coronary and cerebrovascular disease but this may not be at a symptomatic level. 50% of patients with peripheral vascular disease will die from myocardial infarction and 16% following a stroke. The annual risk of limb loss however for claudicants is only ~1% although approximately a quarter of patients' symptoms will deteriorate with time.

The current vascular practice is to manage the vast majority of patients with IC conservatively, concentrating on reducing their risk of early cardiovascular death and promoting the proven effects of exercise to improve their walking distance.

Medical Management

All patients should have clinical assessment, ABPI assessment and blood screening (FBC, U +E's, Hba1c, Lipid profile as a baseline and consider other appropriate tests eg TFT's).

Advice should be given on healthy lifestyle –diet, alcohol intake, smoking cessation and the benefits of exercise. Maintenance of a healthy weight is also important as being overweight will reduce the claudication distance.

The main components of management of claudication are a supervised exercise component and optimised medical management of cardio-vascular risk summarised below:

Smoking Cessation

All patients should have access to and be given supportive information for smoking cessation which may be available within primary care or by the local pharmacy

Diabetes

All patients considered to have PAD should have diabetes actively excluded by glycosylated Hba1c assessment

Hypertension

Hypertension should be assessed for by appropriate guidelines and if identified treated to a target of 140/90 in non-diabetics and in diabetics 130/85. Evidence suggests survival benefit in PAD patients with use of A2RB or ACE inhibitors

Hypercholesterolaemia

A lipid profile to measure total cholesterol and HDL cholesterol allows assessment of cardiovascular risk. However in the presence of proven PAD guidelines suggest benefit from high intensity statin therapy irrespective of lipid screen with first line therapy Atorvastatin at 80 mg.

Antiplatelet therapy

All patients should have single anti- platelet therapy with Clopidogrel 75mgs as first choice. Certain patient after intervention may have a short course of dual anti-platelet therapy or combined therapy with Rivoraxaban 2.5mgs bd / Aspirin 75mgs daily. However patients with a high cardiovascular risk may also benefit from this therapy as first line.

Naftidrofuryl Oxalate

A trial of Naftidrofuryl can be offered to patient at a dose of 200mgs for 3 months. It may take many weeks for patients to notice a benefit but if there is no improvement after the trial period the drug can be discontinued.



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